

CLAIMS

What is claimed is:

510
a' }

1. A method for transmitting signals comprising:
transmitting a data signal over a first wavelength on a single fiber strand;
and
transmitting a radio frequency signal over a second wavelength on the
same single fiber strand.
2. The method of claim 1 further comprising:
transmitting a plurality of other data signals over the first wavelength; and
transmitting a plurality of other radio frequency signals over the second
wavelength.
3. The method of claim 1 further comprising transmitting a plurality of
other data signals and other radio frequency signals over other wavelengths on the single
fiber strand.
4. The method of claim 1 further comprising transmitting another data
signal over a third wavelength on the single fiber strand.
5. The method of claim 1 further comprising transmitting another radio
frequency signal over a third wavelength on the single fiber strand.
6. The method of claim 1 wherein the data signal comprises an ethernet
based signal.
7. The method of claim 1 wherein the data signal comprises an
asynchronous signal.

8. The method of claim 1 wherein the data signal comprises a synchronous optical network based signal.

9. The method of claim 1 wherein the data signal comprises an optical carrier based signal.

10. The method of claim 1 wherein the radio frequency signal comprises a personal communication service signal

11. The method of claim 1 wherein the radio frequency signal comprises a local multipoint distribution system signal

12. The method of claim 1 wherein the radio frequency signal comprises a multipoint multichannel distribution service signal.

13. The method of claim 1 wherein the radio frequency signal comprises an unlicensed radio frequency spectrum signal.

14. The method of claim 1 further comprising connecting the data signal from the first wavelength to a third wavelength.

15. The method of claim 1 further comprising connecting the radio frequency signal from the second wavelength to a third wavelength.

16. The method of claim 1 further comprising connecting the data signal from a first path to a second path.

17. The method of claim 1 further comprising connecting the radio frequency signal from a first path to a second path.

18. A method for transmitting signals comprising:
- transmitting a plurality of data signals, each over a corresponding wavelength on a single fiber strand; and
- transmitting a plurality of radio frequency signals, each over other corresponding wavelengths on the same single fiber strand.

5

10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
310
320
330
340
350
360
370
380
390
400
410
420
430
440
450
460
470
480
490
500
510
520
530
540
550
560
570
580
590
600
610
620
630
640
650
660
670
680
690
700
710
720
730
740
750
760
770
780
790
800
810
820
830
840
850
860
870
880
890
900
910
920
930
940
950
960
970
980
990

5

19. A system for transmitting signals comprising:
a first node configured to transmit a data signal over a first wavelength on a single fiber strand and a radio frequency signal over a second wavelength on the same single fiber strand; and
a second node configured to receive the data signal over the first wavelength and the radio frequency signal over the second wavelength.
20. The system of claim 19 wherein the first node comprises at least one member of a group comprising a switch, a cross connect, a fiber optic transmitter, and a fiber optic receiver.
21. The system of claim 20 wherein the cross connect comprises:
a data matrix configured to connect the data signal over a path; and
a radio frequency matrix configured to connect the radio frequency signal over another path.
22. The system of claim 19 wherein the first node comprises an optical device configured to transmit a mixed optical profile over the single fiber strand.
23. The system of claim 19 wherein the first node comprises at least one member of a group comprising a service node and a point of presence.
24. The system of claim 19 wherein the second node comprises at least one member of a group comprising a switch, a cross connect, a fiber optic transmitter, and a fiber optic receiver.

25. The system of claim 24 wherein the cross connect comprises:
a data signal matrix configured to connect the data signal over a path; and
a radio frequency matrix configured to connect the radio frequency signal
over another path.
26. The system of claim 19 wherein the second node comprises an
optical device configured to receive a mixed optical profile over the single fiber strand.
27. The system of claim 19 wherein the second node comprises at least
one member of a group comprising a service node and a point of presence.
28. The system of claim 19 wherein the second node further is adapted
to transmit the data signal on a third wavelength and to transmit the radio frequency
signal on a fourth wavelength.
29. The system of claim 28 wherein the third wavelength and the fourth
wavelength are on another single fiber strand.
30. The system of claim 19 wherein the first node further is adapted to
receive the data signal on a third wavelength and to receive the radio frequency signal on
a fourth wavelength.
31. The system of claim 30 wherein the third wavelength and the fourth
wavelength are on another single fiber strand.

32. A system for transmitting signals comprising:
a device configured to transmit a data signal over a first wavelength on a
single fiber strand and to transmit a radio frequency signal over a
second wavelength on the same single fiber strand.

33. A system for transmitting signals comprising:

a data matrix configured to transmit a data signal over a first wavelength

on a single fiber strand; and

a radio frequency matrix configured to transmit a radio frequency signal

over a second wavelength on the same single fiber strand.

5

34. The system of claim 33 wherein the data matrix comprises:

a transmitter configured to transmit the data signal over the first

wavelength; and

a receiver configured to receive the data signal over a third wavelength

and to connect the data signal to the transmitter.

5

35. The system of claim 34 wherein the first wavelength and the third wavelength are the same.

36. The system of claim 33 wherein the radio frequency matrix comprises:

a transmitter configured to transmit the radio frequency signal over the

second wavelength; and

a receiver configured to receive the radio frequency signal over a third

wavelength and to connect the data signal to the transmitter.

5

37. The system of claim 36 wherein the second wavelength and the third wavelength are the same.

38. The system of claim 35 wherein the radio frequency matrix comprises a jumper connecting the receiver to the transmitter.

39. The system of claim 33 wherein the data matrix further is configured to transmit a plurality of other data signals, each over another corresponding wavelength on the single fiber strand.

40. The system of claim 36 wherein the data matrix comprises:

a plurality of transmitters each configured to transmit one of the other data signals over the other corresponding wavelength; and

a plurality of receivers each configured to receive one of the other data signals over a different corresponding wavelength and to connect the data signals to one of the transmitters.

41. The system of claim 33 wherein the radio frequency matrix further is configured to transmit a plurality of other radio frequency signals, each over other corresponding wavelengths on the same single fiber strand.

42. The system of claim 38 wherein the radio frequency matrix
comprises:

a plurality of transmitters each configured to transmit one of the other
radio frequency signals over the other corresponding wavelength;

and

a plurality of receivers each configured to receive one of the other radio
frequency signals over a different corresponding wavelength and to
connect the radio frequency signals to one of the transmitters.

5

57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100